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UTILITY PATENT APPLICATION TRANSMITTAL

Only for new nonprovisional applications under 37 C.F.R. § 1.53(b)

Attorney Docket No.	KWPTP001US2
First Inventor or Application Identifier	LAURENT
Title	METHOD FOR MANUFACTURING ...
Express Mail Label No.	EL362858035US

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO: **Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231**

jc511 U.S. PTO 09/478616 01/04/00

1. [✓] * Fee Transmittal Form *(e.g., PTO/SB/17)* *(Submit an original and a duplicate for fee processing)*
2. [✓] Specification [*Total Pages* 16]
   (preferred arrangement set forth below)
   - Descriptive title of the Invention
   - Cross References to Related Applications
   - Statement Regarding Fed sponsored R & D
   - Reference to Microfiche Appendix
   - Background of the Invention
   - Brief Summary of the Invention
   - Brief Description of the Drawings *(if filed)*
   - Detailed Description
   - Claim(s)
   - Abstract of the Disclosure
3. [✓] Drawing(s) *(35 U.S.C. 113)* [*Total Sheets* 2]
4. Oath or Declaration [*Total Pages*]
   a. [ ] Newly executed (original or copy)
   b. [✓] Copy from a prior application (37 C.F.R. § 1.63(d)) *(for continuation/divisional with Box 16 completed)*
      i. [ ] DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).

** NOTE FOR ITEMS 1 & 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).*

5. [ ] Microfiche Computer Program *(Appendix)*
6. Nucleotide and/or Amino Acid Sequence Submission *(if applicable, all necessary)*
   a. [ ] Computer Readable Copy
   b. [ ] Paper Copy (identical to computer copy)
   c. [ ] Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

7. [✓] Assignment Papers (cover sheet & document(s))
8. [ ] 37 C.F.R.§3.73(b) Statement *(when there is an assignee)* [ ] Power of Attorney
9. [ ] English Translation Document *(if applicable)*
10. [ ] Information Disclosure Statement (IDS)/PTO-1449 [ ] Copies of IDS Citations
11. [✓] Preliminary Amendment
12. [✓] Return Receipt Postcard (MPEP 503) *(Should be specifically itemized)*
13. [ ] * Small Entity Statement(s) *(PTO/SB/09-12)* [ ] Statement filed in prior application, Status still proper and desired
14. [ ] Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
15. [ ] Other: .....

16. **If a CONTINUING APPLICATION,** *check appropriate box, and supply the requisite information below and in a preliminary amendment:*

[✓] Continuation [ ] Divisional [ ] Continuation-in-part (CIP) of prior application No: 08 / 875,870

Prior application information: *Examiner* Copenheaver *Group / Art Unit:* 1771

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

17. CORRESPONDENCE ADDRESS

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Laurent et al.

Appl. No.: to be assigned

Filed: herewith

For: Method for manufacturing packaging materials with a polyolefin foam layer

Attorney Docket Number: KWPTP001US2

PRELIMINARY AMENDMENT FILED WITH APPLICATION

Prior to calculating the application fee due with the patent application filed herewith, kindly amend the claims as follows:

In the specification:
In the first line of the specification, insert--This is a continuation of US application number 08/875,870, filed November 24, 1997, which is a national phase application corresponding to PCT application number PCT/CH96/00041 which was filed February 2, 1996, both of which are incorporated herein by reference.--

In the claims:
Please delete claims 1 - 16.

Please add the following new claims 17 - 33.

17. A packaging material usable for forming self-supporting packaging items, which packaging material has the form of a quasi-endless rollable web, the packaging material produced by a method comprising the steps of:

producing by expansion and extrusion a foam sheet of a first polyolefin, said foam sheet having first and second sides;

producing by extrusion or coextrusion a first coating film comprising at least one surface layer of a second polyolefin;

producing by extrusion, between the first side of the foam sheet and the surface layer of the first coating film, a first bonding layer of a third polyolefin, and immediately applying pressure to the foam sheet, the first coating film, and the first bonding layer all together;

wherein the first, second, and third polyolefins are all based on the same main monomer;

yielding the foam layer of the first polyolefin coated on at least one side with the first coating film.

18. The packaging material of claim 17, wherein the method further comprises the steps of:

producing by extrusion or coextrusion a second coating film comprising at least one surface layer of a fourth polyolefin;

producing by extrusion, between the second side of the foam sheet and the surface layer of the second coating film, a second bonding layer of a fifth polyolefin, and immediately applying pressure to the foam sheet and the second coating film;

wherein the fourth and fifth polyolefins are all based on the same main monomer as that of the first, second, and third polyolefins;

yielding the foam layer of the first polyolefin coated on one side with the first coating film and on the other side with the second coating film.

19. A packaging material comprising:

a foam sheet of a first polyolefin, said foam sheet having first and second sides;

a first coating film comprising at least one surface layer of a second polyolefin;

a first bonding layer of a third polyolefin between the first side of the foam sheet and the surface layer of the first coating film;

wherein the first, second, and third polyolefins are all based on the same main monomer.

20. The packaging material of claim 19 wherein the first coating film further comprises at least a second layer coextruded with the surface layer.

21. The packaging material of claim 19 wherein the first bonding layer has a thickness of between 5 and 30 μm.

22. The packaging material of claim 19 wherein at least one of the outermost layers of the packaging material is a sealing layer comprising low density polyethylene.

23. The packaging material of claim 19 wherein at least one of the outermost layers of the

packaging material is a sealing layer comprising peelable polyethylene.

24. The packaging material of claim 19 wherein the monomer of the polyolefin of the foam sheet is propylene.

25. The packaging material of claim 19 wherein the first coating film further comprises a sealing layer of polyethylene, a barrier layer of ethylene-vinyl-alcohol-copolymer between the sealing layer and the surface layer of the second polyolefin, a first adhesive layer of a propylene copolymer between the barrier layer and the surface layer of the second polyolefin, and a second adhesive layer of an ethylene copolymer between the barrier layer and the sealing layer.

26. The packaging material of claim 19 wherein the first coating film further comprises a protecting layer of polypropylene, a sealing layer of ethylene-vinyl-alcohol-copolymer between the protecting layer and the surface layer of the second polyolefin, a first adhesive layer of a propylene copolymer between the sealing layer and the surface layer of the second polyolefin, and a second adhesive layer of a propylene copolymer between the sealing layer and the protecting layer.

27. The packaging material of claim 19 further comprising a sealing layer of polyethylene and an adhesive layer between the sealing layer and the surface layer, the second polyolefin comprising polypropylene.

28. The packaging material of claim 19 wherein the polyolefin of the foam sheet is a mixture of long chain branching polypropylene and an ethylene-propylene copolymer.

29. The packaging material of claim 19 wherein the first coating film and the first bonding layer together have a thickness of between 5 and 60 μm.

30. The packaging material of claim 19 further comprising:

a second coating film comprising at least one surface layer of a fourth polyolefin;

a second bonding layer of a fifth polyolefin between the second side of the foam sheet and the surface layer of the second coating film;

wherein the fourth and fifth polyolefins are all based on the same main monomer as that of the first, second, and third polyolefins.

31. The packaging material of claim 30 wherein the second coating film further comprises at least a second layer coextruded with the surface layer.

32. The packaging material of claim 30 wherein the second bonding layer has a thickness of between 5 and 30 μm.

33. The packaging material of claim 30 wherein the first and second coating films are dissimilar.

Nancy J. Parsons
PTO #40,364
Oppedahl & Larson LLP
P.O. Box 5270
Frisco, Colorado 80443
(970) 668-2050

METHOD FOR MANUFACTURING PACKAGING MATERIALS WITH A POLYOLEFIN FOAM LAYER

The invention is in the field of the packaging industry and relates to a method according to the generic part of the independent claim and to packaging materials produced according to the inventive method. The method serves for manufacturing packaging materials consisting of a polyolefin foam layer which is coated with a coating film on at least one side.

Packaging materials with a foam layer of e.g. polypropylene, in the form of quasi endless, rolled webs are used for producing thermoformed, self supporting packaging items as e.g. trays for food, which trays are, after filling e.g. closed with a transparent film. Such materials are applicable in the so called "Form-Fill-Seal" packaging method (FFS-method). For this method the packaging material is fed into an apparatus in which it is formed into a web of trays, which trays in the same apparatus are filled, sealed with a sealing film and then are separated from each other.

In these packaging materials the polypropylene foam layer is coated either on one side or on both sides with a coating film. The foam layer renders the packaging item stiff and the coating film basically closes the pores of the foam

layer in order to make it tight and to prevent liquid to enter into the inside of the foam material. Depending on the composition and thickness of the coating film, this film may also serve as a further means for increasing the stiffness, as protection of the foam surface and/or as gas and aroma barrier. Usually the coating film carries on its surface facing away from the foam layer a sealing layer which serves as a bonding layer between the packaging material and a transparent film used for closing the packaging item (tray).

Packaging materials with a polypropylene foam layer for producing trays by thermoforming are described e.g. in the publication EP-A1-0570222. The described materials are manufactured by thermobonding (lamination by application of heat and pressure) to a sheet of a polypropylene foam, a multi-layer film, which multilayer film includes a barrier layer rendering the packaging material gas- and/or aroma-tight. This multilayer film needs a bonding layer facing the foam sheet which bonding layer has to consist of a material capable of adhesion to the foam sheet in the thermobonding process, i.e. when exposed to heat and pressure. The heat which may be used for the bonding is limited by the polypropylene foam which is to be laminated without change to its structure by the heat applied. This means that the bonding layer of the coating film needs to be made of a polymer plasticating at a considerably lower temperature than polypropylene, e.g. an ethylene copolymer.

The low melting bonding layer renders the whole structure rather thermo-sensitive and represents a foreign material regarding the recyclability of the polypropylene material. Furthermore it renders the choice of materials for the foam layer rather narrow because there has to exist a material for the bonding layer plasticating at a lower temperature than the foam material and still satisfying the minimal demand on thermal stability which is posed on the packaging items made from the packaging material. Furthermore the demands

on the material of the bonding layer render the coating film structure complicated as can be seen from the example given in the above mentioned publication.

In the publication EP-344726 similar packaging materials are described, which packaging materials consist substantially of a foamed plastic (e.g. polypropylene) coated on one or both sides. For producing the material adhesion methods (as EP-0570222) are proposed or coextrusion methods. For the coextrusion method, the foamed layer is coextruded with additional layers either of the same plastic material as the foamed material or of a different plastiac material.

It is the object of the invention to create a method for manufacturing packaging materials with a polyolefin foam layer applicable for forming self supporting packaging items such as trays for food packaging, which method allows to omit a bonding layer with a substantially lower thermostability than the foam layer has. Using the inventive method allows therefore a larger choice of polyolefins for the foam layer than do known such methods. The packaging material produced by the method is to contain less material different from the foam material than known such packaging materials do. The method is not to be connected with more expenditure than known methods for manufacturing packaging materials with a polyolefin foam layer usable for the same purposes.

The above objects are achieved by the method for producing packaging materials with a polyolefin foam layer as defined by the patent claims.

The inventive method is based on ~~a coextrusion step or on~~ an extrusion lamination step for coating the polyolefin foam layer. ~~If coextrusion is used, the foam layer is coextruded with the layer or layers of the coating film. To achieve good bonding between the foam layer and the layer next to the foam layer it is necessary that this layer consists of a polyolefin based on the monomer which is the main monomer of the polyolefin of the foam layer (e.g. propylene).~~

~~This means that in the coextruded packaging material on the surface of the foam layer there is positioned a layer made from basically the same polyolefin as the polyolefin of the foam layer. This bonding layer may be the only layer of a single-layer coating film or the innermost layer of a multilayer coating film.~~

Thereby
~~If extrusion lamination is used~~, a foam sheet produced in a separate method step by extrusion and expansion is coated by extrusion lamination with a single-layer or a multilayer coating film produced in a separate method step by coextrusion. This means that the polyolefin foam sheet and the coating film are guided together and a further bonding layer is extruded between them. This further bonding layer extruded in the extrusion lamination step consists of a polyolefin based on the main monomer of the foam layer. Immediately after the extrusion of the further bonding layer, there is sufficient pressure applied to the composition to achieve a satisfactory bond without impairing the foam layer. ~~For the extrusion lamination method also,~~ the coating film needs a bonding layer facing towards the foam layer (or rather toward the further bonding layer) which consists of a polyolefin based on the monomer which is the main monomer of the polyolefin of the foam layer (e.g. propylene) also. This bonding layer again may be the only layer of a single layer coating film or it may be the innermost layer of a multilayer coating film.

according to the inventive method
The packaging material produced ~~with the extrusion lamination step~~ always shows on the surface of the foam layer two layers of basically the same polyolefin as the polyolefin of the foam layer.

If the foam layer is to be coated on both sides, this can be done by producing the foam sheet and the two coating films in separate method steps and by

coating the foam layer in two extrusion lamination steps. ~~It can also be done by coextrusion of all the layers in one single coextrusion step~~. It can further be done by producing a foam layer coated on one side by coextrusion and coat this layer on the other side by extrusion lamination with a coating film produced in a separate coextrusion or extrusion step. In all cases, on the coated surface of the polyolefin foam layer there ~~is at least one~~ are two layers of basically the same polyolefin as the polyolefin of the foam layer.

The inventive method and packaging materials produced with the inventive method are described in more detail in connection with the following Figures. Wherein:

Figure 1 shows schematically an exemplified embodiment of the inventive method for producing by extrusion lamination a packaging material coated on one side with a multilayer coating film;

~~**Figure 2** shows schematically an exemplified embodiment of the inventive method for producing by coextrusion a packaging material coated on one side with a multilayer coating film;~~

Figure 2 shows schematically an exemplified embodiment of the inventive method for producing by coextrusion and extrusion lamination a packaging material coated on one side with a multilayer and on the other side with a single-layer coating film;

Figures 3 to 5 show cross sections through exemplified coatings of packaging materials produced by the inventive method.

The examples described in connection with the Figures all concern packaging materials with a polypropylene foam layer. This does not limit the inventive

method to the production of polypropylene based packaging materials. The same method may be applied for producing polyethylene based materials or materials based on other polyolefins.

Figure 1 shows schematically an exemplified embodiment of the inventive method with three method steps 1, 2 and 3. Method step 1 is a coextrusion or extrusion step in which the multilayer (e.g. five-layer) or single layer coating film A is produced. Method step 2 is an expansion and extrusion step in which the polyolefin sheet B is produced. Method step 3 is an extrusion lamination step in which the final packaging material C is produced by extruding a polyolefin bonding layer 30 between the foam sheet B and the coating film A and applying enough pressure to the product (e.g. by pressing rolls 31) to achieve a satisfactory bond.

The foam sheet B produced in method step 2 consists of a foamed polyolefin. For forming selfsupporting packaging items such as trays, applicable in food packaging, foamed polypropylene is used advantageously, as it is self-supporting ~~with feeble thickness and feeble density~~ and need not be too thick nor too large. A mixture of polypropylene with long chain branching (high melt strength polypropylene) and a propylene-ethylene-copolymer (e.g. heterophasic block propylene-ethylene-copolymer) expanded with the help of a solid or a gaseous blowing agent result in a packaging material which is thermoformable but, thanks to its reduced brittleness, is formable into packaging items such as trays by folding also. Very good results are achieved with a mixture with equal parts of the two polymers and with an addition of two percent of a solid blowing agent.

Polypropylene foam sheets for the application in packaging materials for forming self supporting packaging items have preferably a thickness of 0.5 to 2 mm and a density of 0.1 to 0.8 g/cm^3, preferably of 0.3 g/cm^3, and a cell

count of 100 to 300 cells per mm^3. Density and cell count can be influenced by changing the extrusion pressure and other process conditions.

The polyolefin extruded in method step 3 is to be based on the same monomer as the main monomer of the foam layer. In case of the above described foam being made of a mixture of polypropylene and a polypropylene copolymer it is preferably polypropylene. The extruded bonding layer advantageously has a thickness of 5 to 30 µm.

The coating film A produced in the method step 1 is to have at least one surface (e.g one surface layer 14) consisting of a polyolefin based on a monomer which is the same as the main monomer of the foam layer, preferably the same polyolefin as the one extruded in method step 3. This one surface of the coating film is to face the foam sheet in method step 3. Examples of different coating films are described in connection with Figures 3 to 5.

The third method step may be repeated for coating the other surface of the foam layer also, whereby the coating films on the two sides of the foam layer may be similar or different from each other.

It is possible to carry out the second and the third method step within the same apparatus, such coating the foam layer within seconds after its leaving the extrusion die.

~~Figure 2 shows a further exemplified embodiment of the inventive method. This method is based on a coextrusion step 4, in which the foam layer B and~~

the layers of a multilayer coating film A or the one layer of a single layer coating film are coextruded. For achieving a good bond the one surface of the coating film A which is facing the foam layer consists of a polyolefin based on the monomer which is the main monomer of the polyolefin of the foam layer. This surface of the coating film is, as shown in Figure 2, a bonding layer 14 of a multilayer coating film and then may have a thickness down to 5 µm. It may also be one surface of a single layer coating film, which single layer at the same time is a bonding layer and a protecting layer and in this case preferably has a more important thickness.

It is obvious that by adding more extrusion dies to the coextrusion apparatus for carrying out the method according to Figure 2, it is possible to coat a foam layer on both sides in one single coextrusion step.

Figure 2 shows a further exemplified embodiment of the inventive method, containing a coextrusion step 4 for coating the one side of a foam layer B with a single-layer coating film A' and an extrusion lamination step 3 for coating the other side of the foam layer B with a multilayer coating film A. ~~The method according to Figure 3 is a combination of the methods according to Figures 1 and 2 and therefore does not need any further description. In all three Figures similar items are designated with the same reference numerals.~~

Figures 3 to 5 show in cross section exemplified coatings of foam layers producable with the inventive method. All the shown coatings are produced with an extrusion lamination step and therefore all show in addition to the bonding layer 14 being part of the coating film a further bonding layer 30 extruded in the extrusion lamination step. ~~All the shown coatings may be produced with a coextrusion step also. They would then look the same except that the further bonding layer 30 would be missing.~~

Figure 3 shows a cross section through an exemplified packaging material produced by the inventive method. The packaging material consists of the three basic components: the coating film A, the foam layer B and the further bonding layer 30 extruded in method step 3 (Figure 1) between foam layer B and coating film A.

The five-layer coating film shown in Figure 3 consists of a barrier layer 11 made e.g. of ethylene-vinyl-alcohol-copolymer, adhesive layers 12 and 13 on either side of the barrier layer 11, a bonding layer 14 facing the extruded further bonding layer 30 and a sealing layer 15 e.g. consisting of low density polyethylene or peelable polyethylene which is bondable to film material with which the packaging item, e.g. tray, is to be covered for closing. The sealing layer 15 may be replaced by a protection layer without sealing function, e.g. made of polypropylene like the bonding layer 14. Packaging material with such a protecting layer may be used for packaging items which do not require heat sealing for closing.

The adhesive layers 12 and 13 consist of an adhesive suitable for bonding ethylene-vinyl-alcohol-copolymer. For the illustrated case the first adhesive layer 12 bonding the barrier layer 11 to the bonding surface layer 14 (polypropylene) consists of a propylene-copolymer, the second adhesive layer 13 bonding the barrier layer 11 to the sealing layer 15 (polyethylene) consists of an ethylene-copolymer.

Advantageous thicknesses for the different layers in the packaging material as shown in Figure 3 are: sealing layer 15: 10 - 50 µm, adhesive layers 12 and 13: 3 - 5 µm, barrier layer 11: up to 10 µm, bonding layer 14: 5 -15 µm, extruded further bonding layer 30: 5 to 30 µm and foam layer B: 0.5 - 2 mm.

Figure 4 shows a cross section through a further exemplified coating of a packaging material produced with the inventive method. The basic components are as in Figure 3: polypropylene foam layer B, polypropylene extruded further bonding layer 30 and coating film A. The coating film contains three layers: polypropylene bonding layer 14, sealing layer 15 and, if necessary an adhesive layer 16 inbetween.

Figure 5 shows a cross section of a further exemplified coating of a packaging material produced with the inventive method. The coating film A of this material is an extruded single-layer film consisting of polypropylene, serving both as bonding layer 14 and as protecting layer.

Figures 3 to 5 all show only one coated surface of a foam layer. The other surface of the foam layer is either uncoated or coated, wherein all combinations of the three shown or of other similar coatings are thinkable.

CLAIMS

1. Method for producing a packaging material (C) usable for forming self supporting packaging items, which packaging material has the form of a quasi endless rollable web and consists of a foam layer (B) of a first polyolefin coated on at least one side with a coating film (A), **characterized** in that in a first method step (1) a single-layer or multilayer coating film (A) is produced by extrusion or coextrusion which coating film (A) consists of a second polyolefin or has at least one surface layer (14) consisting of a second polyolefin, that in a second method step (2) a foam sheet (B) of the first polyolefin is produced by expansion and extrusion, that in a third method step (3) the polyolefin foam sheet (B) is coated with the coating film (A) by extrusion lamination consisting of guiding the polyolefin foam sheet (B) and the coating film (A) with its surface of the second polyolefin facing toward the polyolefin foam sheet together, extruding a further bonding layer (30) of a third polyolefin between them and applying pressure to the composition, wherein the first, second and third polyolefin are all based on the same main monomer.

2. Method according to claim 2, **characterized** in that the further bonding layer (30) has a thickness of 5 to 30 µm.

3. Method according to claim 1 or 2, **characterized** in that the third method step is repeated for coating the other surface of the polyolefin foam sheet (B).

4. Method according to claim 1 or 2, **characterized** in that the polyolefin foam sheet being coated by extrusion lamination in a third method step (3) is a polyolefin foam sheet coated on one side in a previous coextrusion step.

5. Method according to claim 1 to 4, **characterized,** in that the main monomer of the polyolefin of the foamed layer is propylene.

6. Method according to one of claims 1 to 5, **characterized** in that the coating film (A) is produced by coextrusion of a barrier layer (11) of ethylene-vinyl-alcohol-copolymer, of a bonding surface layer (14) of polypropylene forming one surface of the film, a sealing layer (15) of polyethylene forming the other surface of the film, a first adhesive layer (12) between the barrier layer (11) and the bonding layer (14) and a second adhesive layer (13) between the barrier layer (11) and the sealing layer (15), wherein the adhesive of the first adhesive layer (12) is a propylene copolymer and the adhesive of the second adhesive layer (13) is an ethylene copolymer.

7. Method according to one of claims 1 to 5, **characterized** in that the coating film (A) is produced by coextrusion of a barrier layer (11) of ethylene-vinyl-alcohol-copolymer, of a bonding layer (14) of polypropylene forming one surface of the film, a protecting layer of polypropylene forming the other surface of the film, a first adhesive layer (12) between the barrier layer (11) and the bonding layer (14) and a second adhesive layer (13) between the barrier layer (11) and the protecting layer (15), wherein the adhesives of the first and the second adhesive layer (12, 13) are propylene copolymers.

8. Method according to one of claims 1 to 5, **characterized** in that the coating film (A) is produced by coextrusion of a bonding layer (14) of polypropylene forming one surface of the film, a sealing layer (15) of polyethylene forming the other surface of the film and an adhesive layer (16) between the sealing layer (11) and the bonding layer (14).

9. Method according to one of claims 1 to 8, **characterized** in that the polyolefin used for the production of the foam sheet is a mixture of long chain branching polypropylene and an ethylene-propylene-copolymer.

10. Packaging material (C) consisting of a foam layer (B) of a first polyolefin coated on at least one side with a coating film (A), which packaging material is produced by a method according to one of claims 1 to 9, **characterized**, in that the coating film (A) of the foamed layer (B) has two bonding layers (30, 14) which are positioned on the foam layer (B) and consist of further polyolefins based on the monomer which is the main monomer of the first polyolefin.

11. Packaging material according to claim 10, **characterized** in that it features further layers (11, 12, 13, 15, 16) on the outside of the at least one bonding layer (30, 14).

12. Packaging material according to claim 11, **characterized** in that the further layers include a barrier layer (11).

13. Packaging material according to one of claims 10 to 12, **characterized** in that the first polyolefin and the further polyolefins are propylene based polyolefins.

14. Packaging material according to claim 13, **characterized**, in that the bonding layer (14) together with the further bonding layer (3) have a thickness of 5 to 60 µm.

15. Packaging material according to one of claims 10 to 14, **characterized** in that at least one of the outermost layers of the packaging material is a sealing layer (15) consisting of low density polyethylene or of peelable polyethylene.

16. Packaging material according to one of claims 10 to 15, **characterized**, in that it features a coating film on both sides and that the two coating films are dissimilar.

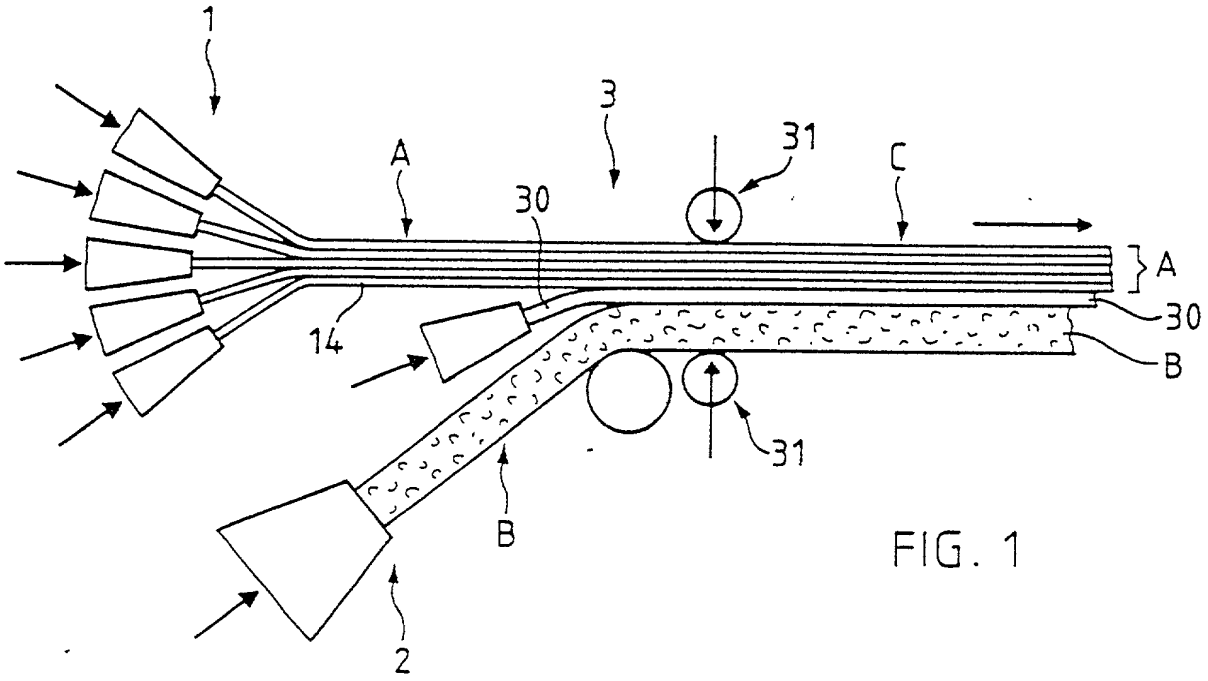

FIG. 1

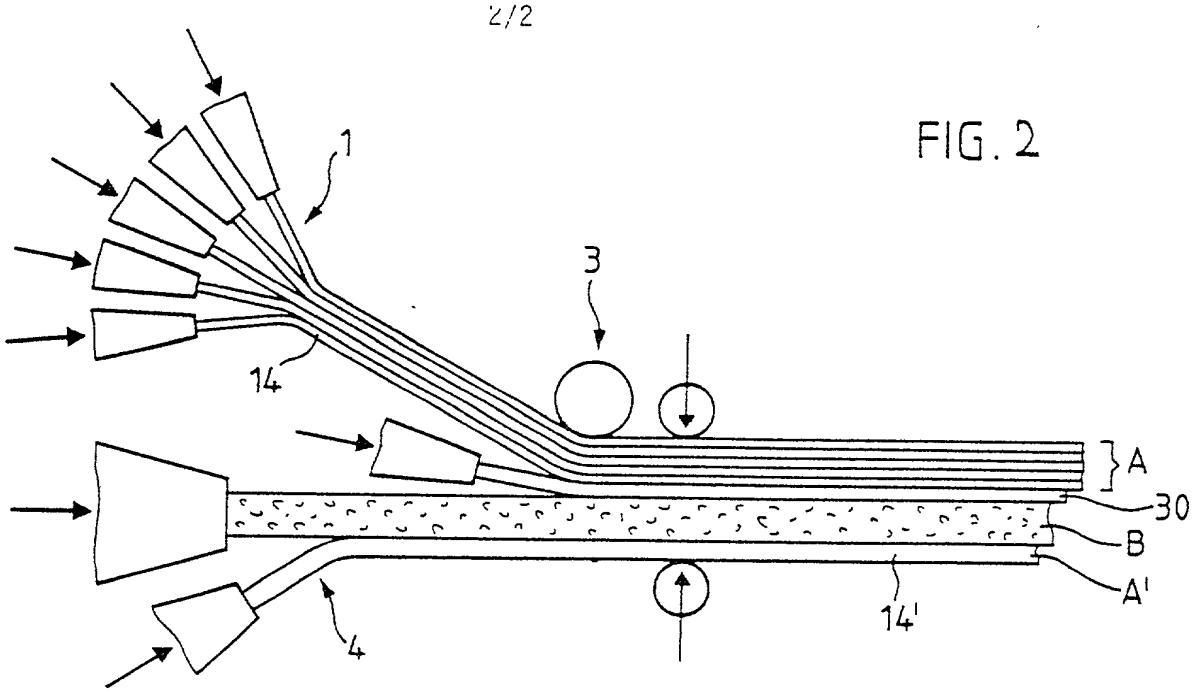

FIG. 2

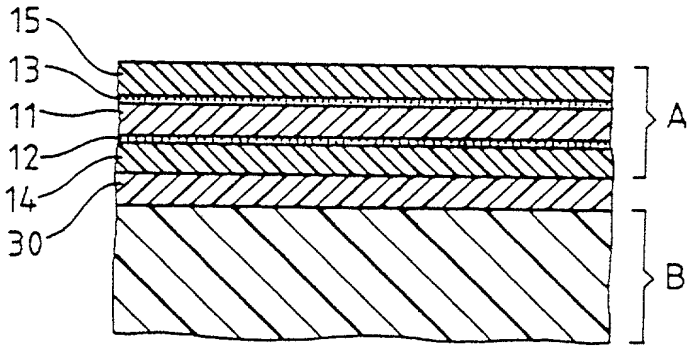

FIG. 3

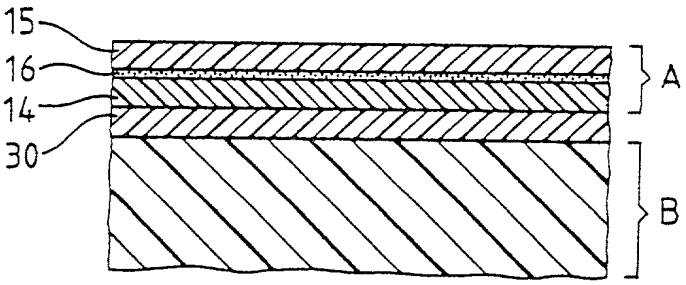

FIG. 4

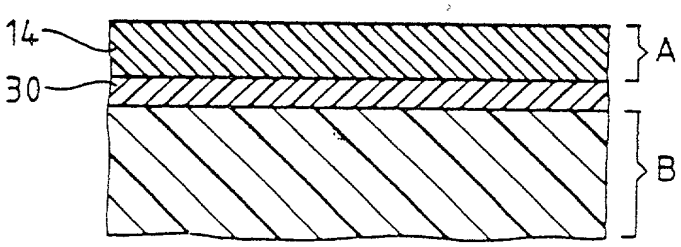

FIG. 5

COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare that:

My citizenship, residence and post office address are as listed below next to my name.

I believe I am the original, first and [ ] sole/[ ]joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled: Method for manufacturing packaging materials with a polyolefin foam layer
the specification of which

(a) [ ] is attached hereto.

(b) [X] was filed on August 5,1997 as Application Serial No. 08/875,870 and was amended on _____.

(c) [x] was described and claimed in International Application No. PCT/CH96/00041 filed on 02.02.96 and amended on 28.4.97.

Acknowledgement of Duty of Disclosure

I hereby state that I have reviewed and understood the content of the above identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to the patentability of the subject matter claimed in this application in accordance with Title 37, Code of Federal Regulations § 1.56(a).

Continuation-In-Part Application

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.)	(Filing Date)	(Status)(patented,pending,abandoned)
(Application Serial No.)	(Filing Date)	(Status)(patented,pending,abandoned)

Power of Attorney

OPPEDAHL & LARSON

002

FILE NO. FREIP001US

I hereby appoint Carl Oppedahl, PTO Reg. No. 32,746, Marina T. Larson, PTO Reg. No. 32,038, and Stanley D. Ference III, PTO Reg. No. 33,879 of the firm of OPPEDAHL & LARSON, having office at 1992 Commerce Street, Yorktown Heights, NY 10598 as attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

SEND CORRESPONDENCE TO:	DIRECT TELEPHONE CALLS TO:
OPPEDAHL & LARSON 1992 COMMERCE STREET, SUITE 309 YORKTOWN HEIGHTS, NY 10598-4412	OPPEDAHL & LARSON (914) 245-3252

Claim for Priority

I hereby claim priority under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have identified any foreign applications for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

EARLIEST FOREIGN APPLICATION(S), FILED WITHIN TWELVE MONTHS (6 MONTHS FOR DESIGN) PRIOR TO SAID APPLICATION				
COUNTRY	APPLICATION NO.	DATE OF FILING (day/month/year)	DATE OF ISSUE (day/month/year)	PRIORITY CLAIMED
Switzerland	00465/95-9	17.02.1995		YES[X] NO[ ]
				YES[ ] NO[ ]
				YES[ ] NO[ ]

FOREIGN APPLICATION(S), IF ANY, FILED MORE THAN 12 MONTHS (6 MONTHS FOR DESIGN) PRIOR TO SAID APPLICATION				
COUNTRY	APPLICATION NO.	DATE OF FILING (day/month/year)	DATE OF ISSUE (day/month/year)	

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE OR FIRST INVENTOR	LAST NAME	FIRST NAME	MIDDLE NAME
	Laurent	Jaccues	--

OPPEDAHL & LARSON

FILE NO. FREIP~~001~~ 002 US

NAME OF SECOND INVENTOR	LAST NAME Pittet	FIRST NAME Michel	MIDDLE NAME --
RESIDENCE & CITIZENSHIP	CITY OF RESIDENCE ~~1690 Lussy~~ 1681 Billens	STATE OR COUNTRY OF RESIDENCE Switzerland	COUNTRY OF CITIZENSHIP Switzerland
POST OFFICE ADDRESS ~~En Graux~~ Le Chaney B		CITY ~~1690 Lussy~~ 1681 Billens	STATE/COUNTRY ZIP CODE Switzerland
DATE X 27. 10. 1997		SIGNATURE X [signature]	

NAME OF THIRD INVENTOR	LAST NAME	FIRST NAME	MIDDLE NAME
RESIDENCE & CITIZENSHIP	CITY OF RESIDENCE	STATE OR COUNTRY OF RESIDENCE	COUNTRY OF CITIZENSHIP
POST OFFICE ADDRESS		CITY	STATE/COUNTRY ZIP CODE
DATE		SIGNATURE	

NAME OF FOURTH INVENTOR	LAST NAME	FIRST NAME	MIDDLE NAME
RESIDENCE & CITIZENSHIP	CITY OF RESIDENCE	STATE OR COUNTRY OF RESIDENCE	COUNTRY OF CITIZENSHIP
POST OFFICE ADDRESS		CITY	STATE/COUNTRY ZIP CODE
DATE		SIGNATURE	

NAME OF FIFTH INVENTOR	LAST NAME	FIRST NAME	MIDDLE NAME
RESIDENCE & CITIZENSHIP	CITY OF RESIDENCE	STATE OR COUNTRY OF RESIDENCE	COUNTRY OF CITIZENSHIP

FILI NO. FREIP~~001~~US 002

RESIDENCE & CITIZENSHIP	CITY OF RESIDENCE 1807 Blonay	STATE OR COUNTRY OF RESIDENCE Switzerland	COUNTRY OF CITIZENSHIP Switzerland
POST OFFICE ADDRESS Rte des Pléiades		CITY 1807 Blonay	STATE/COUNTRY ZIP CODE Switzerland
DATE X 28 10. 97.		SIGNATURE X [signature]	

[ ] Signature for additional joint inventor attached. Number of Pages __.

[ ] Signature by Administrator(trix) or legal representative for deceased or incapacitated inventor. Number of Pages __.

[ ] Signature for inventor who refuses to sign or cannot be reached by person authorized under 37 CFR § 1.47. Number of Pages __.